GARDEN *for* VICTORY

BULLETIN 232 OF THE AGRICULTURAL EXTENSION SERVICE, OHIO STATE UNIVERSITY

GARDEN FOR VICTORY

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FOOD SHORTAGES are predicted for the duration of the war. Home grown vegetables and home canned or stored vegetables will enable your family to have an adequate food supply despite scarcity and rationing.

Every garden, no matter how small or how large, should be planned on paper before planting to obtain an adequate variety of the necessary vegetables throughout the season. By following the plans on pages 6 and 7, at least two and sometimes three crops a season may be grown in each row. If space is available, a balanced diet should be planned by growing at least:

1) Two leafy, green, or yellow vegetables, as kale, spinach, beet greens, squash, etc.
2) Two pod vegetables, as peas, beans, and lima beans.
3) Two root crops, as turnips, carrots, beets.
4) Tomatoes and cabbage.
5) Choice of four other vegetables.

The leafy vegetables and root crops can be made available throughout the season from early spring until late fall by proper planning for companion and succession crops. Canning and drying should be done as much as possible from spring crops, especially peas, carrots, beets, greens, etc. For storing, fall root c[illegible] should be used.

WHO SHOULD GROW VEGETABLES?

Only those with suitable plots of garden soil should attempt Victory Gardens. Always avoid shade, tree roots, poorly drained ground, heavy clay soils, and fills of rubbish. Yards nicely landscaped with lawns, shrubs and flowers should *not* be plowed up. Since many persons who would like to raise a garden will not have a satisfactory lot for a Victory Garden, effort should be made to obtain a plot nearby, possibly part of a neighborhood group. Well drained soils will give earlier gardens than poorly drained ones.

WHEN TO START YOUR GARDEN

The words "as soon as the ground can be worked" mean when the soil is sufficiently dry to be spaded or plowed. This will vary from March 1 in the extreme southern part of Ohio to around April 1 in the vicinity of Columbus,

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Dayton, and Steubenville, and about April 20 to May 1 in the northern part of the state.

Sandy loam soils can be worked earlier than clay soils. Well drained soils, especially those which are tiled, may be worked earlier than poorly drained soils.

In general, most home gardens are planted 2 to 3 weeks later than they should be for the greatest production. See planting table on page 8.

Succession of Crops

A large part of the Victory Garden can be planted as soon as the ground is prepared in the spring.

The Cool-season Crops, such as early peas, beets, carrots, spinach, lettuce, radishes, onions and onion sets, mustard, garden cress, and collards may be sown at that time. Also, plants of early cabbage, head lettuce and Spanish onions should be transplanted to the garden at the first opportunity. Most of these, with the exception of Spanish onions, may be harvested by July, some by June 1. They should be followed by plantings of the "warm-season" crops or by second plantings of cabbage, carrots, or beets. Other cool-season crops which may be sown about 2 weeks later are parsnips, salsify, parsley, New Zealand spinach, and chard.

Warm-season Crops, which may be sown after the danger of frost is past, are ıs, sweet corn, lima beans, squash, cucumbers, muskmelons, and pumpkins. ants of tomatoes, peppers, eggplants, and sweet potatoes should be transplanted to the garden after the frost danger is over.

Some of these crops may follow the cool-season crops that mature quite early. Many others will mature in time to be followed by a short-season fall crop, sown in mid-August or by September 1.

Some vegetables which may be sown in mid-summer for fall crops are carrots, beets, lettuce, radishes, Chinese cabbage, mustard, garden cress, kale, collards, and turnips.

Soil Preparation

Soils containing ample quantities of humus are better aerated and looser and will give more satisfactory results than heavy, tight soils. The mixing of barnyard manure, compost, or other materials containing partially decayed organic matter with the soil will produce better crops. Clay soils may also be loosened by the incorporation, not just plowing under, of a 2- to 4-inch layer of coal ashes. Plots that have been in sod are best plowed in the fall to kill any grubs present and to give the turf time to decompose before spring. Lima beans and root crops such as carrots and beets require a well loosened soil.

Fertilization is necessary for high quality vegetables. The quicker vegetables are grown, the more tender and succulent they will be. If possible, apply 3 to 4 pounds per 100 square feet of the Victory Garden fertilizer, 3-8-7, after plowing. Or it may be applied in bands at the sides of the rows before planting or after the plants come up, at the rate of 1½ to 2 pounds for 100 feet of row. Fertilizer should not touch seeds or roots.

Preparing the Seed Bed

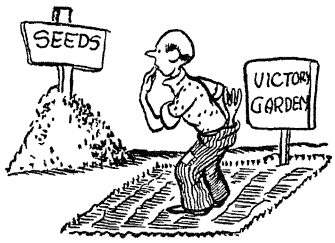
The more the soil is pulverized before sowing the seed, the better will be the results. Either plowing, followed by discing; or spading, followed by raking; should sufficiently pulverize the soil if it is at all suitable for vegetables. All clods and lumps should be completely broken up. The upper 2 inches of soil must be well pulverized to furnish a good seed bed.

Buying Seeds

The necessary amount of seed is given on pages 6 and 16 for the plans. In many communities, the seeds will be put up in special Victory Garden collections. Seed left over from last year's supply may still be good. Vegetable seed is usable from 2 to 10 years, depending on the crop. Test old seed by sowing a little between damp blotters or moist cloths where it will germinate in a few days, if it is alive.

Sowing Seed

Mark each row in the garden with a stake before starting to sow or plant. Rows should be 1 to 3 feet apart, according to the crop, for hand cultivation, and 2½ to 4 feet apart for horse cultivation. One long row instead of two short ones saves labor. To obtain straight rows, place a stake at each end and stretch a string between them. Scratch a furrow along the string with a hoe or sharp stick, ½ to 2 inches deep. Space the rows according to the distances given in the planting table on page 8. Sow the seed very thinly by shaking from the cut edge of the seed packet or with your fingers. Small seeds, like lettuce and carrots, should not be covered more than ¼ inch deep; larger seeds, such as peas and beans, ½ to 2 inches deep. Firm the soil over the seeds by tamping lightly with a hoe blade.



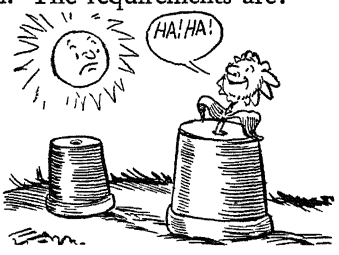
Slow germinating seeds, like carrots, parsnips, and New Zealand spinach, may have a few radish seeds sown in with them to mark the rows for early cultivation. See planting table, page 8.

Thinning Seedlings

Since crowded plants do not give good crops, seedlings should be thinned to the necessary distances as given in the planting chart. In the case of crops with edible tops, such as beets, turnips, and chard, let them grow until big enough to eat as greens. Crowded seedlings may be transplanted when very small to gaps in the row or to new rows.

Transplanting

Cabbage, sweet potato, cauliflower, lettuce, onion, celery, broccoli, tomato, and pepper plants are easily transplanted in the garden. The requirements are: (1) keep sunlight away from the roots, (2) keep the roots moist and the tops dry while the plants are out of the ground, (3) keep as much soil on the roots as is possible, (4) press moist soil firmly around the plant roots, (5) avoid unnecessary injuries to roots and tops, (6) transplant during cloudy weather or late in the afternoon. Shade with a pot, shingle, or paper for a day or so.



In setting the plant, dig a hole big enough to receive the root system without serious cramping. Place fine moist soil around the roots and press firmly enough to bring roots and soil into contact. A cup or two of water will settle the soil about the roots and furnish some extra moisture. Then refill the hole with fine soil to cover the wet surface and prevent crusting. For approximate transplanting dates see planting table, page 8.

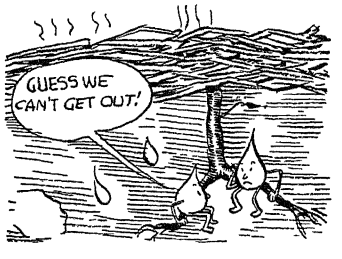
Cultivation

Cultivation should be done sufficiently often to control weeds and to keep the soil from crusting so that the rain may soak in. Other than this, cultivation is a waste of energy, since it does not aerate the soil that the roots are actually in, nor does it conserve moisture. A hand hoe, scuffle hoe, or wheel cultivator with knife blades will do most good in weed control and breaking the crust, with a minimum of injury to the shallow roots of vegetables. Hilling is not necessary.

Gardens in newly plowed sod or weed patches will require far more weed control than older garden plots. This is especially true in the early spring. Hand weeding will be necessary in the rows.

Mulching

Once the ground has dried out in the late spring, usually the first or second week of June, cultivation may be replaced by a 1- or 2-inch mulch of partially decayed organic material which does not pack. This will include rotted manure, weathered sawdust, buckwheat hulls, leaf compost, alfalfa chaff, soybean chaff, and clover chaff.



If a light fertilization is given at the time of application of the mulch, chopped tobacco stems, chopped corn cobs, shredded fodder, or spent hops from breweries may be used. These mulches have the added advantage of conserving moisture and keeping the ground cooler, besides adding humus to the soil when plowed under in the fall or following spring.

Fall Care of the Garden

All refuse should be cleaned up and, if not diseased, put on the compost pile. Diseased plants should be burned. Sow winter wheat or rye on any bare ground, even in any one row, beginning September 1 and continuing to October 15. This is to be spaded or plowed under the following spring to improve the soil by adding humus.

Vegetables that should be harvested before the first frost include beans, lima beans, peppers, eggplant, and tomatoes.

Vegetables that are able to stand light frost but not heavy freezes include chard, collards, beets, carrots, endive, mustard, turnips, cabbage, lettuce, radishes, and celery.

Vegetables that can be left out all winter include kale, salsify, and parsnips.

A SMALL BACKYARD VICTORY GARDEN, 15 ft. by 20 ft.

To be planted as soon as ground can be worked.

		Row
1 foot →	CARROTS, sow by April 1. Sow a few RADISHES to mark the rows.	(1)
1 foot →	GREEN ONIONS, plant sets by April 1. Follow with 5 hills POLE BEANS, sow May 15.	(2)
1 foot →	BEETS, sow by April 1.	(3)
1½ feet →	SPINACH, sow by April 1. Follow with 5 hills POLE BEANS, sow May 15.	(4)
1½ feet →	SPINACH, sow by April 1.	(5)
1½ feet →	LETTUCE, sow by April 1. Interplant with 7 EARLY TOMATOES, set May 15.	(6)
1½ feet →	BEETS, for greens, sow by April 1.	(7)
1½ feet →	CARROTS, sow by April 1. Sow a few RADISHES in the rows. Interplant with 7 TOMATOES, set May 15.	(8)
2 feet →	10 EARLY CABBAGE, set by April 1. Follow with 1 row CARROTS, sow July 1, and 1 row BEETS, sow July 1.	(9)
2 feet →	EARLY PEAS, sow by April 1. Follow with 8 LATE CABBAGE, set June 15.	(10)
1½ feet →	EARLY PEAS, sow by April 1. Follow with 8 LATE CABBAGE, set June 15.	(11)
1½ feet →	ONION SETS, plant by April 1. Follow with LETTUCE, sow August 1.	(12)
1½ feet →	NEW ZEALAND SPINACH, sow April 15.	(13)
1 foot →		

The amount of seed and number of plants required to plant the medium size Victory Garden (30 by 50 feet) shown on page 7, and a large Home or Farm Garden (60 by 100 feet), are given on page 16.

Amount of Seed and Number of Plants Required

Carrots..... 1 packet
Onion sets.....1 pound
Beets..... 1 packet
Spinach.....1 packet
Lettuce..... . 1 packet
Early peas.....½ pound
N.Z. Spinach... 1 packet
Pole beans .. ..¼ pound
Radish.... ....1 packet
14 Tomato plants
10 Early cabbage plants
16 Late cabbage plants

VICTORY GARDEN PLAN — 30 ft. by 50 ft.

This should supply a family of four or five with fresh vegetables and give a considerable quantity for canning and storage. Numbers in feet indicate distance between rows. First sowing should be done not later than April 1—earlier if possible.

		Row
2 feet →	RADISH, ½ row, sow April 1, LETTUCE, ½ row, sow April 1. Follow with EARLY TOMATOES, 24 plants, set May 15. Follow with 2 rows TURNIPS, sow August 15.	(1)
1½ feet →	GARDEN CRESS, ½ row, sow April 1. KOHLRABI, ½ row sow April 1.	(2)
1½ feet →	SPINACH, sow April 1. Interplant with TOMATOES, 24 plants, set May 15.	(3)
1½ feet →	BEETS, sow April 1. Use partly as greens.	(4)
1½ feet →	RADISH, ½ row, sow April 15. Follow with PEPPERS, 30 plants, set May 15.	(5)
2½ feet →	GREEN ONIONS, plant sets April 1. Follow with BUSH BEANS, sow May 15. Follow with SPINACH, sow Sept. 1.	(6)
2 feet →	EARLY PEAS, sow April 1. Follow with LATE CABBAGE, 24 plants set June 15, or COLLARDS, sow July 1.	(7)
2 feet →	EARLY PEAS, sow April 1. Follow with KALE, sow August 1.	(8)
1½ feet →	EARLY PEAS, sow April 1. Follow with CHINESE CABBAGE, sow seed August 1 or set plants September 1.	(9)
1½ feet →	CARROTS, sow April 1. Follow wish BUSH BEANS, sow June 15.	(10)
2 feet →	EARLY CABBAGE, 36 plants, set April 1. Follow with two rows (1) BEETS, sow July 1, (2) CARROTS, sow July 1.	(11)
2½ feet →	NEW ZEALAND SPINACH, ½ row, sow April 15. SWISS CHARD, ½ row, sow April 1.	(12)
2 feet →	ONIONS, plant sets April 1. Follow with LETTUCE, sow August 1 or set head lettuce plants September 1.	(13)
1½ feet →	BUSH LIMA BEANS, sow May 20.	(14)
1½ feet →	MUSTARD, sow April 1. Follow with BUSH BEANS, sow July 1.	(15)
1 foot →	PARSNIPS, ½ row, sow April 1. SALSIFY, ½ row, sow April 1.	(16)
2 feet →		

The amount of seed and number of plants required for this garden will be found on page 16.

Planting Table—Vegetables Seeded Directly In the Garden

Vegetables	When to Plant	Depth in Inches	Seed per 100 Feet	Days to Maturity	Planting Distances, Inches	
					In the Row	Between Rows
Asparagus, plants	April	6-8	60 crowns	730	20	
Beans, bush snap	May 15 to Aug. 1	½-2	1 pound	40-60	3	24
Beans, green shell	May 15 to July 1	½-2	1½ pounds	60-100	3	24
Beans, dry shell	May 15 to June 1	½-2	1 pound	90-100	3	24
Beans, bush lima	May 20 to June 10	½-2	1 pound	60-75	6	24
Beans, pole snap	May 15 to June 1	½-2	½ pound	50-75	24	36
Beans, pole lima	May 20 to June 1	½-2	¾ pound	70-100	24	36
Beets	April 1 to Aug. 1	½-1	2 oz.	50-70	3	18
Broccoli	April 1	¼	¼ oz.	80	18	24
Brussels sprouts	April 1	¼	¼ oz.	120	20	24
Cabbage, Chinese	August 1	¼	1 oz.	80-90	15	24
Carrots	April 1 to July 15	¼-½	1 oz.	55-75	3	18
Chard, Swiss	April 1 to April 10	½-1	1 oz.	50-60	8	24
Collards	April 1 to Aug. 1	¼	¼ oz.	65	15	24
Corn, sweet	May 1 to July 1	1-2	4 oz.	60-90	12	24
Cress, garden	April 1 and Aug. 1	¼	½ oz.	65	6	18
Cucumber	May 10 to June 1	1-2	½ oz.	50-70	12	48
Endive	August 1	½-1	1 oz.	90-100	18	18
Kale	August 1	½	¼ oz.	50-70	18	18
Kohlrabi	April 1 and Aug. 1	½	¼ oz.	50-70	4	18
Lettuce, leaf	April 1 and Aug. 1	¼	½ oz.	40-50	6	18
Mustard	April 1 and Aug. 1	¼	1 oz.	40	8	18
Muskmelon	May 15	1-2	½ oz.	70-100	12	48
Okra	April 1	½	½ oz.	65	15	30
Onions, seed	April 1	½-1	1 oz.	110-150	3	18
Onions, sets	April 1	1-2	2 pounds	100-140	3	18
Onions, winter	April 1	1-2	3 pounds	30-40	1	18
Parsley	April 1 to April 10	⅛-¼	¼ oz.	55-60	6	18
Parsnips	April 1	½-1	½ oz.	130-140	3	24
Peas	April 1	2-3	1-2 pounds	50-60	1	18
Potatoes, early	April 1	3-4	10 pounds	90-110	9	24
Potatoes, late	May 15	3-4	9 pounds	110-140	12	24
Pumpkin, bush	May 15	1-2	1 oz.	60-90	12	36
Pumpkin, vine	May 20	1-2	½ oz.	90-110	12	60
Radish	April 1 and Aug. 1	½-1	1 oz.	25-35	1	18
Rhubarb	April	2-3	50 roots	365	24	36
Rutabaga	July 1	½-1	¼ oz.	100-120	6	24
Salsify	April 1 to April 10	½-1	1 oz.	140-150	2	18
Spinach	April 1 and Sept. 1	½-1	1 oz.	40-50	2	18
Spinach, N. Zealand.	April 10 to May 1	½-1	1 oz.	60-80	15	24
Squash	May 15	1-2	½ oz.	60-125	48	60
Turnip	April 1 and Aug. 15	¼-½	½ oz.	50-60	3	18
Watermelon	May 20	1-2	1 oz.	110-130	96	96

Note: The planting dates are for normal seasons in central Ohio.

Planting Table—Vegetable Plants Started Under Glass

Vegetable	Start in Hotbed	Move Plants to Coldframe	Spacing in Coldframe	Set Plants in Garden	Days to Maturity from Setting Plants	Planting Distances in Inches	
						In the rows	Between rows
Cabbage, early	Feb. 20	March 1	2" x 2"	April 1	50	15	24
Cabbage, late	May 10	June 1	3" x 3"	June 15	70	18	24
Cauliflower	May 30	None	None	July 15	70	24	24
Celery, early	Feb. 1	March 1	2" x 2"	April 20	90	6	24
Celery, late	April 15	May 15	2" x 2"	July 1	110	6	24
Tomatoes	March 20	April 10	4" x 6"	May 15	50	18	36
Peppers	March 20	April 10	2" x 2"	May 15	70	18	24
Lettuce, head	Feb. 20	March 1	2" x 2"	April 1	60	15	24
Sweet Potato	April 10	None	None	May 20	120	12	30

Note: The planting dates are for normal seasons in central Ohio. Except for fall plantings will be 2 to 3 weeks earlier for southern Ohio, 2 to 3 weeks later for northern Ohio. Tomatoes set 18 inches apart in the row should be pruned and tied to stakes.

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A Year's Food Supply for One Person from a Victory Garden

(Recommendations of the National Nutrition Committee)

VEGETABLES. Make four servings each day.

1. *Leafy, Green, and Yellow Vegetables.* Serve one from this group each day. Eat 3½ pounds per week per person (182 pounds per year) fresh or its equivalent in canned, dried, stored, or frozen vegetables. Can 25 quarts. Store 45 lbs.

Vegetable	Yield per 100 feet of Row	Amount of fresh Product Necessary to can 1 quart	Preferred Method of Preservation
Asparagus	30 pounds	3–4 pounds	Can, freeze
Beans, Snap	50 pounds	1½–2 pounds	Can, freeze
Beans, Lima	50 pounds	3–4 quarts in pod	Can, freeze
Beet Greens	25 pounds	2–3 pounds	Dry, freeze, can
Broccoli	50 pounds		Freeze
Chard	100 pounds	2–3 pounds	Dry, can
Collards	50 pounds		Dry, freeze
Dandelion Greens	25 pounds	2–3 pounds	Can, dry, freeze
Endive	50 pounds		Can, dry, freeze
Garden Cress	25 pounds		
Kale	75 pounds		Dry, freeze
Lettuce	50 pounds		
Mustard Greens	50 pounds	2–3 pounds	Dry
Parsley	50 pounds		Dry
Spinach	50 pounds	2–3 pounds	Dry, can, freeze
Turnip Greens	50 pounds		Dry, freeze
Peas	40 lbs. (pods)	4 quarts in pod	Freeze, can
Carrots	100 pounds	2½ pounds	Can young, store
Pumpkin	75 fruits	4 pounds in shell	Can, store
Rutabaga	150 pounds		Store
Squash, Yellow flesh	100 fruits	4 pounds in shell	Can, store

2. *Tomatoes, Cabbage, etc.* Serve one from this group each day. Eat 2 pounds per week per person (104 pounds per year). Can 25 quarts tomatoes or juice. Store or kraut 25 pounds of cabbage.

VEGETABLE	Yield per 100 feet of Row	Amount of fresh Product Necessary to can 1 quart	Preferred Method of Preservation
Tomatoes	200 pounds	3 pounds	Can, or juice
Cabbage (raw) or Kraut	100-175 pounds		Store or kraut
Brussels Sprouts	50 pounds		
Cauliflower (raw)	45 heads		
Muskmelon	50 fruits		
Peppers (raw)	120 peppers		Dry, can
Watercress	25 pounds		

3. *White Potatoes and Sweet Potatoes.* Serve one of these each day. Eat 3½ pounds per week per person (182 pounds per year). Store 140 pounds.

4. *Other Vegetables.* Serve one from this group each day. Eat 3 pounds per week per person (156 pounds per year). Can or freeze 15 quarts. Store 40 pounds.

VEGETABLE	Yield per 100 feet of Row	Amount of fresh Product Necessary to can 1 quart	Preferred Method of Preservation
Corn	100 ears	10–12 small ears 5–6 large ears	Can, dry, freeze
Beets	100 pounds	2½–3 pounds	Can, freeze
Onions	50-100 pounds		Store
Parsnips	100 pounds		Store
Salsify	75 pounds		Store
Turnips	100 pounds		Store
Celery	200 stalks		Store
Chinese Cabbage	80 heads		Store

5. *Dried Peas, Beans, Lima Beans, Soybeans.* Serve one from this group three times a week. Eat 6 ounces per person per week (20 pounds per year). Store 14 pounds. Yield: 50 pounds per 100 feet row.

FRUIT AND FRUIT JUICES, including berries and rhubarb.

Serve once or twice each day. Eat 3½ pounds per person per week (182 pounds per year). Can or freeze 50 quarts, 4 pounds dried. Store 1 to 2 bushels per person.

GARDEN TOOLS

Probably the three most essential garden tools are the COMMON HOE, GARDEN RAKE, and the TROWEL. To these, may be added the spade, a ball of cord, and a wheel hoe. A dust gun or sprayer also will be necessary successfully to fight insects and plant diseases.

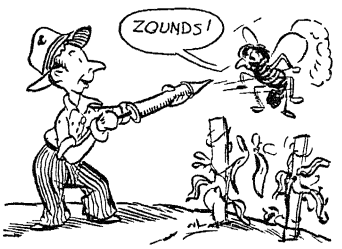
Good gardening may be done with simple tools!

Cultural Suggestions for Vegetables in the Victory Garden

The varieties recommended on page 15 are those considered best for Ohio Victory Gardens. You may have your own favorites which you prefer. New and unusual varieties not included are not necessarily any better and sometimes not as good.

ASPARAGUS.—A permanent garden crop, requiring at least 2 years' growth before cutting. Plant 1- or 2-year roots 18 inches apart each way, 8 inches deep, with 4 inches of good soil over them. Add the rest of the soil as they grow. Good soil and heavy fertilization give best results. After third year, cut all shoots until mid-June. Responds to heavy fertilization.

BEANS.—One of the most successful crops for the home garden. Do not cultivate or touch the foliage when it is wet. To do so spreads a bean disease called anthracnose.



Mexican bean beetles can be controlled by dusting with pyrethrum or rotenone, if applied soon enough. Successive plantings at intervals of 2 weeks from last frost to July 15 will give a constant supply of tender beans. Only stringless varieties should be grown. Bush beans are usually more convenient than pole beans and come into bearing quicker.

Lima beans are not so easily grown as other beans. Limas require a looser soil and warm weather. Make one sowing in late May or early June.

BEETS.—Beets can be sown as soon as the ground can be worked. Successive plantings should be made at intervals of 3 to 4 weeks until August 1 for a constant supply of tender roots. The later plantings can be used for storing. Beet thinnings can be used for greens and half-grown beets for their roots until those that are left are 3 inches apart. The early crop should be used for canning.

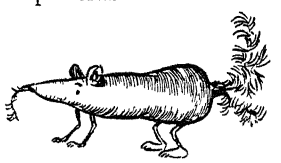
BROCCOLI.—Broccoli is not so easily grown or generally so satisfactory as other members of the cabbage family. But its high vitamin content and constant supply of greens throughout the season make it worth trying by more experienced gardeners. Sow seed in garden about 2 weeks after soil is ready, or set out plants same time as sowing beans.

BRUSSELS SPROUTS.—This crop is difficult to grow in Ohio. Set plants June 15 to July 1 for fall use. Plant lice usually must be controlled. Plants may be left in the garden until freezing weather.

CABBAGE.—Because of its vitamin content, cabbage is one of the most important vegetables in the garden. Early cabbage plants may be set out as soon as the ground can be worked. Space 15 by 30 inches apart.

Late cabbage for fall and winter use and kraut can be set out July 1. Space 18 by 30 inches.

On plots where cabbage has been grown before, yellows-resistant varieties as recommended in variety chart (page 15) are preferable.



CARROTS.—Carrots may be sown as soon as the ground can be worked. Successive plantings may follow every 3 to 4 weeks until August 1. The seeds are slow to germinate. Rows may be quickly marked by sowing a few radish seeds in them. Carrot thinnings may be used

when finger size. Loose soil is necessary for smooth roots. Early sowings of carrots are best for canning. Easily stored over winter.

CAULIFLOWER.—As a rule, it is seldom practical for the home gardener in Ohio to grow cauliflower. Plants may be set very early in the spring for June crop. Leaves must be tied to bleach the head.

CELERY.—Celery requires a moist and fertile soil, preferably high in humus. Set early celery plants, April 20; late celery, July 15. These should be well grown plants which have not been stunted. Although old-style method of growing calls for mounding with earth or covering to bleach, green celery is higher in vitamins. Fall crop may be dug with roots and hilled in sand or soil for winter storage. Celery usually requires several applications of fungicide to control diseases.

CHINESE CABBAGE.—Best grown in Ohio as a fall crop. Sown August 1 to 20. Thin to 8 to 10 inches apart. May be dug before freezing weather and stored for a month or two in vegetable cellar.

COLLARDS.—One of the most satisfactory vegetables. Resembles cabbage but does not head up. High in several vitamins. It is easily grown throughout the season. May be sown very early in spring or at any time until August 15. Entire top may be used and new row planted, or first planting may be allowed to grow by using larger leaves.

CUCUMBERS.—Useful only in larger gardens where ample space is available, unless grown on trellis or fence. Sow in hills 4 feet apart after danger of frost is past. Difficult to grow because of the striped cucumber beetle.

EGGPLANT.—The eggplant is a warm weather crop. Set out plants about June 1, spaced 24 inches apart. Flea beetles, which are difficult to control, make this a doubtful crop in many gardens. Eggplants may be stored in a cool place for a month or two in the fall.

ENDIVE.—Endive is best used as a fall salad. Sow August 1 and thin to 8 inches apart. Tie the leaves together in early to mid-October to bleach the center for several weeks. An excellent source of vitamin A.

GARDEN CRESS.—This is an old but little used leafy green vegetable for spring use. Sow as early as the ground can be worked and use as soon as large enough to cut. Goes to seed rather quickly. High in vitamin A.

KALE.—An unappreciated member of the cabbage family, although easily grown. For early summer crop, sow April 1. For the usual fall and winter crop, sow August 1 to 15. Kale is sufficiently hardy to be left in the garden all winter and used as needed. Rabbit protection is usually necessary. High in vitamins.

KOHLRABI.—Another member of the cabbage family, with a fleshy stem just above ground. Can be sown as soon as the ground can be worked, with the successive plantings at intervals of 2 to 3 weeks until August 1. Spring and fall crops are the most desirable. Thin to 3 to 5 inches. Plants 1 inch in diameter may be used, but allow main crop to develop until they are 3 inches in diameter.

LETTUCE.—Lettuce is a cool weather crop; it does best in spring and fall. Seed may be sown as soon as the ground can be worked and at 2-week intervals until June 15, and again August 1 to September 1. More advanced gardeners may want to attempt head lettuce, setting the plants out early in the spring for a June crop; or September 1 for fall use. Butterhead varieties, like May King, set 12 inches apart, seem preferable for this use. Leaf lettuce thinnings may be used until plants left are several inches apart.

MUSKMELON.—Where space is available in sandy loam soils, melons may be worth growing. Sow seed in hills 4 feet apart after danger of frost is past. Spade a half bushel or so of rotted manure into the soil beneath the hill for high quality melons. Do not pick until melon separates easily from stem.

MUSTARD GREENS.—Mustard is another of the green vegetables not sufficiently appreciated, despite its high vitamin content. Best used as a spring crop. Sown early and used before flowering. Self sows, if allowed to go to seed.

NEW ZEALAND SPINACH.—This is quite different in habit but tastes the same as ordinary spinach. Sow seed after ground has warmed up. Germination is slow. Mark rows with a few radishes. Plants produce constant supply of greens until fall frosts.

ONIONS.—This crop is best grown from sets unless soil has more than average summer moisture, in which case seed may be sown in early spring. Plant sets for both green onions and mature ones as soon as ground can be worked. Use thinnings for green onions, leaving others 3 inches apart. When tops break over, dig and dry in the sun before storing.

Spanish onions may be grown from young plants set out in early spring. Perennial onions, such as Potato (Multiplier) and Egyptian (Topset) give a yearly but limited source of onions.

PARSLEY.—Although seldom used except as an herb, parsley is one of the best sources of vitamin A. The seed, which is slow to germinate, should be sown early in the spring. Rows may be marked with a few radish seeds. Plants may be dug and potted in September and carried in sunny window over winter.

PARSNIPS.—Sow in the spring to give 130 days to mature before fall. Slow to germinate. Mark rows with radishes. Roots ready to use in the fall may either be left in the ground over winter or be stored in the cellar.

PEAS.—Only early peas are normally satisfactory in Ohio. Sow in rows as soon as ground can be worked; later sowings cannot be relied upon. Smooth-seeded varieties, as Alaska, are hardiest, but early varieties with wrinkled seeds have better quality. No support is necessary for these early peas.

PEPPERS.—Since the commercial production of this rich source of Vitamin C is restricted, we will have to grow peppers (mangoes) in our home gardens. The plants may be set out after danger of frost is past, 2 feet apart. Whether you grow green, yellow, or red varieties is a matter of choice. Some prefer the fleshy pimiento and a few, the hot pepper.

POTATOES.—Potatoes are not recommended for the Victory Garden because of the necessity of at least 5 sprayings for early and 8 sprayings for late potatoes. In growing potatoes, it is best to use certified seed. Early potatoes are planted as soon as the ground can be worked; late potatoes, in early May. Irish Cobblers are suggested for home gardens.

PUMPKINS.—Growing pumpkins is practical only in larger gardens where space is not limited. Sow in hills 4 feet apart when danger of frost is past. May be stored away from freezing during winter.

RADISHES.—Radishes require cool weather to be tender, are best grown in either spring or fall. Sow as soon as the ground can be worked, at intervals of 2 weeks until June 1, and again from August 15 to September 15. Sow thinly, so that thinning will not be necessary. May be companion-cropped by sowing in with rows of carrots, parsnips, New Zealand spinach, and parsley. Winter radishes for late fall use and winter storage may be sown in September.

RHUBARB.—This is a perennial crop, a few clumps of which can be grown at one side of the yard. Plant the crowns (roots) 2½ to 3 feet apart, in good rich soil, during either the spring or fall. Responds to heavy fertilization.

RUTABAGA.—Requires a long season of cool weather and, therefore, is not easily grown except in northern Ohio. Sow in mid-July for fall digging and winter storage.

SALSIFY.—Salsify, or vegetable oyster, requires entire season to produce sizeable roots. Spring sown, they are ready for use in the fall. May be left in the ground until spring, or stored as other root crops.

SPINACH.—Spinach requires cool weather, since it goes to seed in warm weather. Spring crop may be sown as soon as the ground can be worked. The fall crop should be sown August 1 to 15. This can be used until freezing weather. Young, half-grown plants can be used to thin out the rows, to give the rest space to grow. A mulch will keep excessive dirt off the foliage.

SQUASH.—When space is available, squash should be grown. Plant bush squash 4 feet apart; other, 8 feet apart. Winter squash should be allowed to ripen thoroughly before picking. They may be stored in a warm, dry place. Yellow-fleshed squash are higher in vitamins than light-fleshed ones.

SWEET CORN.—Sweet corn is not advisable in very small gardens but is recommended for larger ones. Should always be planted in blocks of three or more rows to insure pollination. May be planted as soon as safe in the spring. Early varieties planted at intervals of 10 days to 2 weeks until July 1 will give a constant supply of corn. Or, succession may be obtained by the use of early, medium, and late varieties all planted more or less at the same time. May be planted in hills or drilled.

SWEET POTATOES.—Where a sandy loam soil is available (or clay soil, if loosened with coal ashes and organic matter) and where space is not limited, sweet potatoes are practical for a home garden. The young plants, either purchased or obtained from sweet potatoes sprouted in a hotbed, are planted in early June. They will be ready for digging after frost in the fall. If dug and handled carefully so that the individual roots are not bruised, and then cured in a warm, dry place for several weeks, they may be stored until late the following spring without any loss through decay. Hilling or ridging is not necessary. Some prefer dry, mellow varieties, such as Jersey or Triumph; others prefer more moist varieties, like Nancy Hall, Porto Rico, and Pierson.

SWISS CHARD.—Swiss chard is one of the best all-season leafy green vegetables. Sown in the early spring, it will produce a constant supply of leaves until heavy frost in the fall. Thin plants to 6 inches. Thinnings may be used. Sow only limited amount.

TOMATOES.—The most satisfactory vegetable for poor soils and limited space. Set plants after danger of frost is past, 1½ to 2 feet apart, if staked; 4 feet, if not staked. Better quality tomatoes are obtained when plants are staked and tied, and the side branches pinched out. Whenever possible, plant wilt-resistant varieties.

TURNIPS.—Turnips are best grown as a fall crop in Ohio to avoid aphids in the spring. Sow August 1 to 15. May be winter stored. The foliage turnip, Shogoin variety, has been especially developed for production of the vitamin-rich turnip greens. Best fall grown, but may be spring grown if plant lice are controlled.

WATERMELON.—Watermelons may be grown in larger gardens. Plant early-maturing varieties. Even these require 4 months of frost-free weather. Sow seed 10 to 15 in hills, 8 feet apart each way. Allow to ripen on the vines.

VEGETABLE VARIETIES FOR VICTORY GARDENS

Asparagus—Mary Washington
Beans, bush green—Stringless Green Pod, Bountiful, Stringless Black Valentine
Beans, bush wax—Sure Crop, Pencil Pod
Beans, pole green—Kentucky Wonder
Beans, pole wax—Kentucky Wonder Wax
Beans, pole lima—Early Leviathan, King of the Garden, Challenger
Beans, bush lima—Fordhook, Baby Potato
Beans, green shell—Horticultural
Beets—Crosby Egyptian, Early Wonder, Detroit Dark Red, Ohio Canner
Broccoli—Italian Green Sprouting
Brussels Sprouts—Long Island Improved
Chinese Cabbage—Chihili, Wong Bok
Cabbage, early—Jersey Queen, Golden Acre, Marion Market
Cabbage, late—Wisconsin All Season, Wisconsin Hollander No. 8, Globe Glory, Danish Ballhead, Mammoth Red Rock, Drumhead Savoy
Cantaloupe—(See muskmelon)
Carrots—Nantes, Danvers, Chantenay, Imperator
Celery, early——Golden Plume, Easy Blanching, Curlyleaf Easy Blanching, Michigan Golden
Celery, late—Giant Pascal, Utah
Chard, Swiss—Lucullus
Collards—Georgia, Louisiana Sweet
Corn, sweet early—Spancross, Marcross
Corn, sweet mid-season—Golden Cross Bantam
Corn, sweet late—Stowells Evergreen
Cucumber, early—White Spine, Davis Perfect
Cucumber, pickling—National Pickling
Eggplant—Black Beauty
Endive—Giant Green Curled, Broad Leaved Batavian
Kale—Dwarf Scotch Curled, Dwarf Siberian
Kohlrabi—Early White Vienna
Lettuce, leaf—Grand Rapids, Black Seeded Simpson
Lettuce, head—May King, Imperial 44, Imperial 847, New York 55
Muskmelon (cantaloupe)—Tip Top, Ohio Sugar, Pride of Wisconsin, Honey Rock
Mustard—Fordhook Fancy
Okra—Dwarf Green Early
Onion, seed—Ebenezer, Ohio Yellow Globe
Onion, plants—Sweet Spanish
Parsley—Moss Curled
Parsnip—Early Short French, Hollow Crown
Peas, early—Alaska, Little Marvel, Wisconsin Early Sweet, Premium Gem, Thomas Laxton
Potatoes—Irish Cobbler
Pumpkin—Small Sugar, Winter Luxury
Radish, early—Cincinnati Market, Scarlet Globe, White Icicle
Radish, winter—White Celestial
Pepper, green—World Beater, California Wonder, Ruby King
Pepper, yellow—Oshkosh
Pepper, pimiento—Sunnybrook
Pepper, hot—Hungarian Wax, Long Red Cayenne
Rutabaga—Improved Long Island
Salsify—Sandwich Island
Spinach—Long Standing Bloomsdale, Savoy, King of Denmark
Squash, summer—White Bush Scallop, Giant, Summer Straightneck
Squash, winter—Hubbard, Table Queen, Delicious
Sweet Potato, dry flesh—Triumph, Jersey
Sweet Potato, moist flesh—Nancy Hall, Pierson, Porto Rico
Tomato, early—Pritchard, Bonny Best, John Baer
Tomato, late—Rutgers, Marglobe
Tomato, yellow—Golden Queen, Minngold
Turnip—Purple Top White Milan, Purple Top White Globe
Watermelon—Kleckly's Sweet, Stone Mountain, Tom Watson, Pride of Muscatine

Amount of Seed to Plant in Your Victory Garden

Below is shown the amount of seed and number of plants for planting the Victory Garden shown on page 7; also, for a large home or farm garden.

Medium Garden — 30 by 50 feet

Crop	*Amount of Seed*	*Crop*	*Amount of Seed*
Radish	1 packet	Kale	1 packet
Lettuce	½ ounce	Bush beans	1½ pounds
Turnips	.1 ounce	N.Z. Spinach	1 packet
Garden cress	1 packet	Chard	1 packet
Kohlrabi	1 packet	Mustard	1 packet
Spinach	.1 ounce	Parsnips	1 packet
Beets	2 ounces	Salsify	1 packet
Onion sets	.2 pounds		
Early peas	1½ pounds	48 Tomato plants	
Chinese cabbage	1 packet	36 Early cabbage plants	
Carrots	1 ounce	24 Late cabbage plants	
Bush lima beans	½ pound	30 Peppers	

Large Home or Farm Garden (60 by 100 feet)

This is adequate for a year's supply for a family of five. The planting plan for such a garden is given in Extension Bulletin 116, Home Gardening.

Crop	*Amount of Seed*	*Crop*	*Amount of Seed*
Bush Beans	.2 pounds	Pumpkin	1 ounce
Peas	.2 pounds	Turnip	½ ounce
Bush Lima Beans	.2 pounds	Early Cabbage	¼ ounce
Pole Beans	1 pound	Late Cabbage	¼ ounce
Sweet Corn	.1¼ pounds	Tomato	.1/10 ounce
Beets	.2 ounces	Pepper	.1/10 ounce
Carrots	.2 ounces	Kale	¼ ounce
Lettuce	½ ounce	Salsify	½ ounce
Swiss Chard	½ ounce		
Parsnips	½ ounce	265 tomato plants, if staked (100 if unstaked), 80 early cabbage and 65 late cabbage, and 65 pepper plants may be purchased.	
Radish	.1 ounce		
Cucumber	½ ounce		
Squash	1 ounce		